AS EASY AS CONNECTING THE DOTS.
SAVE TIME. SAVE MONEY.

your camera

pylon Camera Software Suite

Easy and stable connection of your vision applications with Basler cameras and hardware components requires the right software in place. The Basler pylon Camera Software Suite consists of reliable, certified drivers for all kinds of camera interfaces, a powerful and easy programming interface, and a comprehensive set of tools for camera and system set-up. Thanks to the pylon vTools, you can develop complete machine vision, medical and other applications with just a few lines of code.

CONNECT
Easy link to Basler cameras

Many ways to connect – With pylon you can connect your application in a standardized way via a pylon GenTL producer, or by writing your own code using one of the pylon APIs. With the pylon APIs, developers can either use convenient universal functions that encapsulate the GenICam standard, or use functions for access directly via GenICam.

GenICam and GenTL – Complex details of these standards are encapsulated by the pylon APIs.

Rich choice of supported interfaces – pylon allows connecting your cameras via USB3, GigE Vision, CoaXPress, MIPI, Camera Link and others. If your application connects via one of the pylon APIs, switching from one interface to another becomes possible with minimal code changes.

CONFIGURE
Powerful tools for camera set-up

Get the best possible image – pylon provides you with a rich set of powerful tools for getting the best image out of your Basler camera, such as Vignetting Correction, Sharpness Indicator, Bandwidth Manager and many more.

Fast access to product documentation – The pylon Viewer allows easiest centralized access to comprehensive camera feature documentation, including code samples.

Use the tools in your language – pylon tools can be used in English, Chinese, Japanese and Korean language.

Integrated camera emulator – pylon comes with a camera emulation that allows testing multi-camera connectivity without having to connect any camera.

your vision

pylon

Highlights

- Easy connecting of Basler cameras via GenTL standard
- Productivity and fast results with pylon SDKs
- Stable, certified drivers for Windows, Linux, macOS and Android
- Rich choice of supported interfaces
- Powerful tools for camera set-up

For more information, please visit *baslerweb.com/pylon*
See the pylon highlights in our video:

DEVELOP
High productivity and fast results

80% time savings – Studies show that developers using a pylon API finished tasks in only 20% or less of the time that they needed to complete the same tasks with other comparable APIs.

Easy to learn – With the easy-to-learn pylon APIs and context-related developer documentation, even new employees can become productive right away.

Faster results – The simple structure of the pylon APIs leads to fast development results, leaving the developers more time for other things.

Simple deployment - pylon's copy deployment concept allows installing all necessary pylon components used for your application just by simple file copies.

RUN
Stable operation on all platforms

Certified drivers, reliable performance – Tried and used thousands of times, certified, and the performance speak for the stability of the pylon drivers, which have been optimized continuously for many years.

Real-time performance – In comparison studies, pylon demonstrated an outstanding performance with regard to latency and jitter, making pylon suitable for stable image aquisition even in real-time applications.

Platform-independent – With the pylon APIs, the target platform of the developed application doesn't play any role. It's very easy to switch from a Windows environment to a Linux ARM environment without major code changes. This makes pylon perfectly suitable for the development of embedded systems.

	PYLON FOR WINDOWS	PYLON FOR LINUX X86	PYLON FOR LINUX ARM	PYLON FOR MACOS	PYLON FOR ANDROID
Platform					
Supported OS Version	10 (64 bit), 11 (64 bit)	Ubuntu 18.04 or newer (64 bit), CentOS 8.0-1905 or newer (64 bit)	Ubuntu 18.04 or newer (64 bit)	10.14, 10.15, 11.1 (Intel 64 bit)	8, 9, 10, 11
Configuration Tools					
pylon Workbench & vTools	●	●	●		
pylon Viewer	●	●	●	●	
pylon GigE Configurator	●	●	●		
pylon IP Configurator	●	●	●	●	
pylon USB Configurator	●				
pylon Camera Link Configurator	●				
Firmware Updater	●	●	●		
CXP Grabber Firmware Updater	●	●			
CXP gpioTool	●	●			
Color Calibrator for MED ace cameras	●	●	●	●	
MPEG-4 Video Recording	●	●	●		
blaze 3D viewer	●	● (Ubuntu 18.04 or newer)			
Application Development					
Data Processing C++ API	●	●	●		
C++ API	●	●	●	●	●
VB.Net / C# API	●				
C API	●	●	●		
Java API					●
GenTL					
USB3 Vision	●	●	●	●	
GigE Vision	●	●	●	●	
CoaXPress 2.0	●	●			
BCON for MIPI			●		
blaze 3D	●	●	●		
Interface Driver					
Direct Show Driver (U3V, GEV)	●				
TWAIN Driver (U3V, GEV)	●				
NeuroCheck Driver (U3V, GEV)	●				
CoaXPress 2.0 Driver	●	●			
GigE Vision Driver	●	●	●	●	
USB3 Vision Driver	●	●	●	●	●
Camera Link Driver	●				
BCON for MIPI Driver			●		

AS EASY AS CONNECTING THE DOTS.

PYLON VTOOLS –
IMAGE PROCESSING, SIMPLIFIED.

your vision

your camera

pylon vTools

pylon vTools
Seamlessly Integrated Image Processing with pylon

Use pylon vTools to quickly and easily create high-performance image processing functions for your applications. Design and test intelligent structure recognition, micrometer-precise object positioning, or robust code recognition and integrate everything into your own application – together with camera control and image acquisition, precisely tailored to Basler's camera portfolio.

⚠️ Before purchasing, Basler's pylon vTools can be tested for free in the pylon Camera Software Suite. Simply download pylon and activate the included pylon vTools with a valid email address for an 80 days demo period.

Highlights

- Seamlessly integrated image processing with pylon

- High performant and robust

- Precisely matched to Basler cameras

- Easy and fast to create visually

- Easy to integrate into existing architectures

- Cost-optimized module cutting

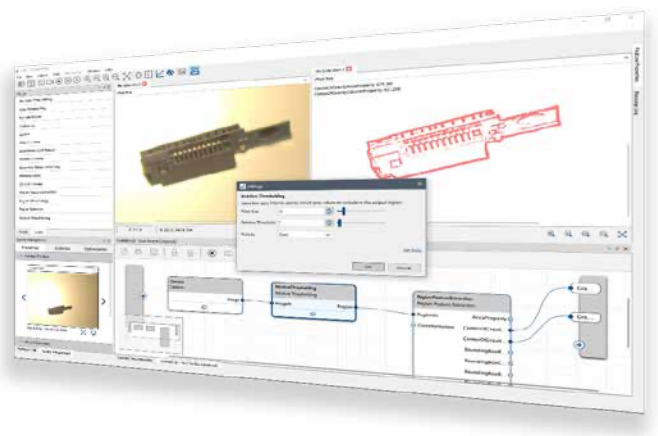**For more information, please visit**
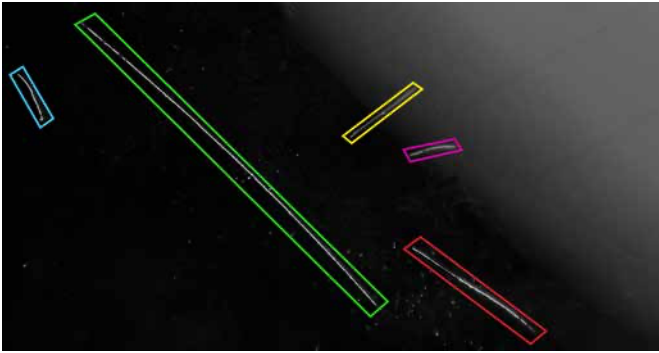*baslerweb.com/pylonvtools*

Easy creation in pylon Viewer

Create image processing functions quickly and easily in the pylon Viewer's Workbench. Here you can select, insert, and configure individual processing steps as vTools. By connecting single vTools together, you can create and test complete image processing workflows. Save image processing workflows created in the Workbench as recipe files, to use them in your own applications.

Flexible integration with pylon APIs

To integrate image processing functions into your own applications, the popular pylon APIs offer a variety of simple functions for loading and executing recipe files, and for evaluating the results in your program code. Adjust the settings of your application via recipe file using the pylon Viewer – without having to change or recompile the application code.
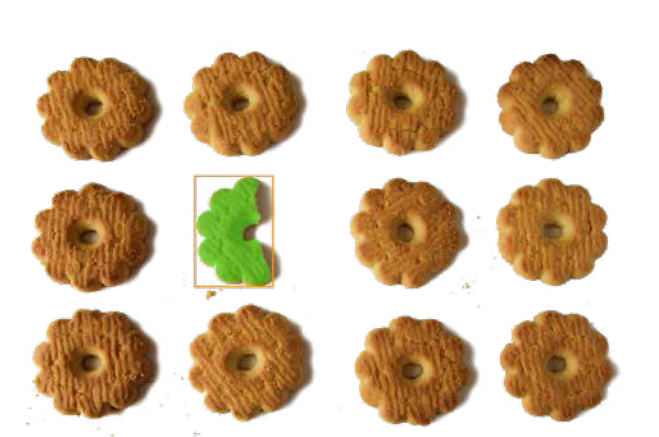
BLOB Analysis – based object recognition

This license includes vTools for thresholding based object recognition, to identify and analyze regions, objects and structures.

Basic:

Absolute thresholding, auto thresholding, and relative thresholding – including vTools for region morphology, object filtering, and feature extraction.
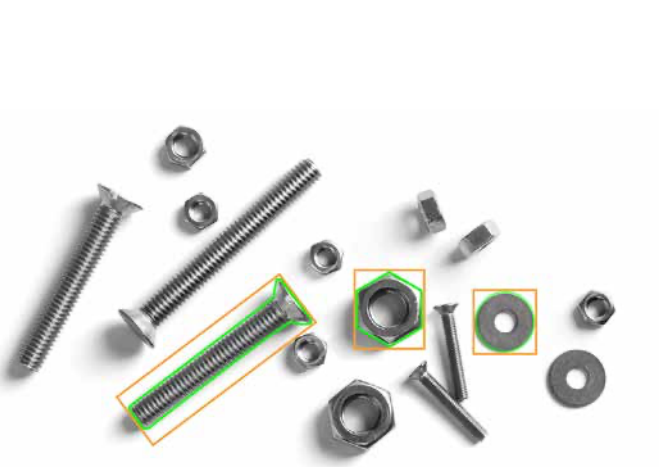
Color BLOB Analysis – Machine learning-based object recognition

The vTools for Color BLOB Analysis contain machine-learning based object recognition to identify and analyze regions, objects and structures.

Basic:

Training and application of a model for one class – including vTools for region morphology, object filtering, and feature extraction.

Geometric Pattern Matching – Edge-based algorithm for simple and robust recognition of shapes, logos and objects
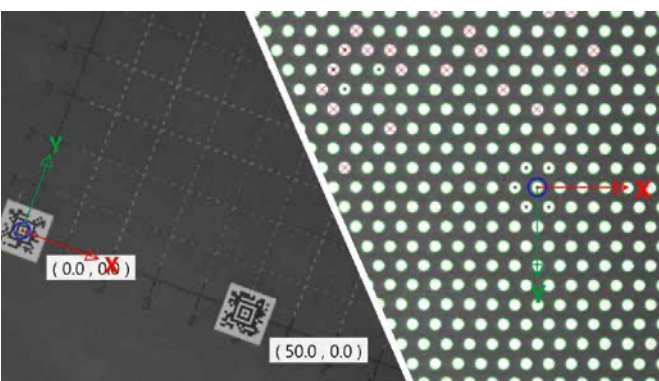
The license for Geometric Pattern Matching provides vTools for easy training of shape models and adjustable recognition of trained shapes on live images.

Basic:

Single pattern search, 360° rotation, without further scaling.

Pro:

Single pattern search including scaling, adjustable angle and polarity.

Calibration and Rectification – Calibration for precise transformation from pixel to real world coordinates

This license comes up with a vTool to quickly and easily calibrate cameras for distortion correction and real world coordinate transformation.

Basic:

Single image, single camera calibration for entocentric cameras

Barcode Reading – Fast and robust recognition of all types of barcodes

The Barcode Reading license covers vTools for recognizing and decoding bar codes of up to 28 different bar code types with best-in-class recognition rates.

Basic:
For up to two barcodes per image and one group of barcode types per installation.

Pro:
Unlimited number of barcodes per image from each of the 28 different barcode types.

Data Matrix Code Reader – Fast and robust recognition of all types of Data Matrix codes

This license includes vTools for best-in-class recognition and decoding Data Matrix Codes.

Basic:
For up to three Data Matrix Codes per image, dark on bright background.

Pro:
For an unlimited number of Data Matrix Codes per image, adjustable polarity, and enhanced recognition rate.

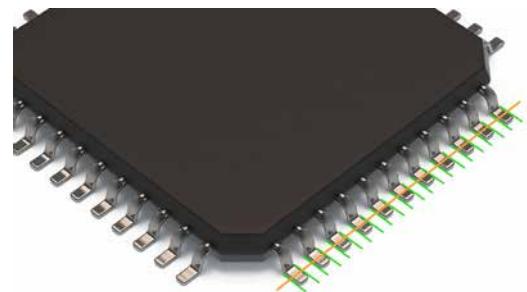## Measurements – Measurement of distances between edges along a line

Use a live image from a connected camera or load an image from a file and draw a measurement shape on it.

Basic:
Measure distances between edges along a line.

Pro:
Measure distances along lines and geometric shapes.

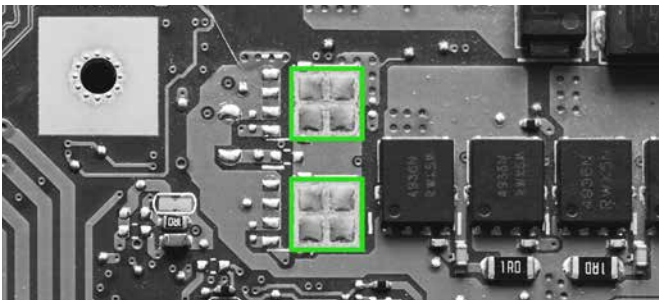## QR Code Reading - Fast and robust recognition of all types of QR codes

The QR Code Reading license comprises high performance vTools for recognizing and decoding QR Codes.

Basic:
For up to three QR Codes per image, dark on bright background.

Pro:
For an unlimited number of QR codes per image, adjustable polarity, and enhanced recognition rate.

Template Matching

With this license user-friendly and high-performant correlation based matching can be done on live images.

Basic:
Single pattern search, 360° rotation

Dongle - USB dongle for license activation for commercial use

For activation of commercial licenses, you need one USB dongle per system onto which the licenses are loaded. The licenses are then bound to the dongle and can be exchanged between different systems.

Compact USB dongle for license activation

For more information please contact:

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